ADOLESCENT LANGUAGE ANALYSIS IN SUBJECTS WITH POOR SCHOLASTIC ACHIEVEMENT RECORD.

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INTRODUCTION

Adolescent Language development is very sophisticated with advancements in the semantic, syntactic, morphologic, and pragmatic aspects of language. Children shifting from primary to secondary school tend to be exposed to more challenging situations such as new subjects, curriculum, vocabulary, teachers, teaching style, and organizational abilities, which can be quite demanding. With this highly challenging situation being placed by secondary schools on the language skills of adolescents, these children are expected to learn abstract and complex vocabulary, adapt and learn from a range of teaching approaches, and learn about and write in different styles. Such communication skills are essential even outside of the formal learning environment. Until recently it was assumed by many researchers that a child's language development was nearly complete by the time he/she entered school. Owens (2004) stated that the major focus of language research has always been in infancy and early childhood, with less emphasis given to adolescence. Recent researches tend to indicate that the school-age years are a very creative period for language development. According to Nippold (2000), adolescence is the time between 12 and 20 years of age when a major aspect of the development of language occurs in the areas of semantics and syntax. This development is not as accelerated as young learners, however, they become increasingly capable of tackling more complex ideas and language as they grow older. During this period, the brain is still developing, especially the frontal lobe. Since this area is still under development in adolescence, teens will become increasingly able to handle abstract and critical thinking, and their writing will become more organized as their executive function develops. Since the adolescent period acts as a bridge between childhood and adulthood, the successful acquisition of social and linguistic abilities will facilitate a healthy transition toward adulthood. Though Language development during this period is subtle, it is considered to be important. Development beyond the preschool years becomes especially evident when the focus is on literate language tasks. (Nippold, 2000).

Sukumaran (2011) suggest that unrecognized and unresolved scholastic backwardness has a long-term impact on adolescents, affecting school completion, higher education, interpersonal relationships, employment prospects, and so on As a result, developing language skills is critical for every child's progress in later life, both as a social being and in pursuing an education.

Purpose of the study

Many researchers believe that "no matter what the subject, all knowledge building in the school context involves working with language" (Beacco et al., 2010). As a result, language is important in all aspects of learning. Through many linguistic skill assessments conducted at the primary level, such evaluations also need to be continued into middle and high school to determine the remediation goals for older children. Research shows that language performance in adolescence is difficult to measure as the development in this stage is marked by a subtle and gradual improvement in skills. The spread of English as a global language has been accompanied by ever-growing numbers of schools where the medium of teaching is English. Adolescent children shifting from primary to secondary school tend to be exposed to more challenging situations. With this, highly challenging situation being placed by secondary schools on the language skills of adolescents, these children are expected to learn abstract and complex vocabulary, adapt and learn from a range of teaching approaches, and learn and write in different styles. Yet, the study of language development in adolescence is a relatively new field, especially in India and the impact of language competency on academic performance is the least studied area. Hence the present study aims to compare the modality-specific (visual and auditory) language performance of male and female school-going adolescents (10 -16 years) with above-average and below-average academic performance using the test material, *Manipal Manual of Adolescent Language Assessment* (MMALA), developed by Karuppali &Bhatt (2016).

Aim of the Study

This study aims to understand the language skills of school-going adolescents aged 10-16 years with poor academic achievement.

Objectives

1. To compare the performance of two groups of school-going adolescents, with above-average and below-average academic performance, on language tasks inauditory and visual modalities.
2. To compare modality-specific performance (between auditory and visual modalities) across two groups of school-going adolescents, with above-average and below-average academic performance, on language tasks.
3. To compare the performance of two groups of school-going adolescents, males, and females, on language tasks in auditory and visual modalities.

REVIEW OF LITERATURE

The development of language moves from simple to complex, beginning with cooing and babbling, and terminating with a highly refined use of language. In the first phase of development, vocal learning, infants learn and may reproduce aspects of the prosodic and segmental characteristics of the ambient language. This phase commences before birth and continues in infancy. By six months, most infants have heard enough speech to recognize a few words and stereotyped phrases (Locke & Snow, 1997) and to experience some perceptual reorganization a process that continues in succeeding months (Werker & Curtin, 2005).

For many years, it was widely believed that language development was largely complete by the time a child entered school, at five or six years of age. More recently, however, it has become apparent that a great deal of linguistic growth occurs during the school-age years, adolescence, and well into adulthood, and that the development of language has no obvious point of completion (Nippold, 1998). Beyond the preschool years, language development is comparatively slow, subtle, and occasionally challenging to measure. However, the study of later language development is an interesting field of study. Metalinguistic, cognitive, and social development; newly acquired reading ability; and growth in world knowledge and experience are all factors that support and even promote later language development.

Language Development in Adolescents

Adolescence is the period of transition between childhood and adulthood. Adolescents begin to assert more autonomous control over their decisions, emotions, and actions and start to disengage from parental control. The school environment of adolescents involves an intense socialization process in which adolescents become increasingly aware of the perspectives of their classmates, teachers, and other societal influences. (Berzonsky & Adams, 2003).

The adolescence period can be broken down into three phases early adolescence, middle adolescence, and late adolescence. Nippold (1998) proposed that this type of language, normally learned by children in their adolescent years, can be termed later language development. Early adulthood is a period in life where the ability to express oneself clearly, precisely, and efficiently through spoken language becomes critical for success in a variety of academic, social, and vocational endeavors. According to Nippold (1988), the major focus of language research has always been on infancy and early childhood, with less emphasis given to adolescence and early adulthood.

The biggest cognitive and academic leap adolescent students are expected to make is understanding and being able to use complex linguistic skills. It necessitates strong abilities in metalinguistic awareness. Adolescence is frequently a time of confusion and discovery. Adolescence serves as a transitional period between childhood and adulthood; successful acquisition of linguistic and social skills will enable a healthy transition into adulthood.

Early and later stages of language development differ dramatically. For instance, after slowly developing through the stages of cooing, babbling, and proto-words throughout the first year of life, infants become toddlers who can express their first true words (Hey! Doggie! Look it!) and make requests, draw attention to themselves, and comment on the environment. Hundreds of words will have been added to a child's vocabulary by the time they turn two, allowing them to express a wide range of meanings in short, simple utterances (Billy run; Mommy buy a book; Dolly pretty), which will soon develop into lengthy, complex sentences during the preschool years (ages 3-5). Language resources such as syntax, semantics, phonology, and discourse pattern used by adolescents help them to deal with the challenges that they will be facing during the transition into the adult world (Smetana et.al., 2006).

Nippold (2016) mentioned the linguistic changes that tend to be seen during the adolescent period, suggesting four developments that could explain many of the specific developments in this period.

a) The growth in metacognitive processes, which is the ability to analyze and reflect upon language, understanding grammatical structures, new words, and pragmatics as well as building a basis for the understanding of figurative expressions.

b) Cognitive development, which is the ability to think abstractly. Here along with the combination of the acquisition of metalinguistic skills, abstract words, and sentence meanings, the appreciation of humor and ambiguity are also facilitated.

c) In the aspect of social cognition, wherein a specific growth is evident in social perspective-taking, laying the foundation of almost all the sophisticated and complex changes in social interaction concerning people's intentions during the use of language, as well as expressing intentions. Such interactions become progressively dependent on competent verbal skills, even though their life is deskbound and technology-dependent.

d) The Introduction of advanced syntax, vocabulary, and figurative expressions, which is largely learned by print input rather than by spoken input, and also beginning to use a range of genres of discourse.

According to Anglin (1993), learning new words happens quickly throughout the academic years. It can be rather challenging for kids to transition from primary to secondary school because they are often exposed to new courses, curriculum, language, teachers, and organizational skills. Effective and adaptable language abilities are necessary for a child to be able to connect ideas from many subject areas, comprehend technical words, and manage less organized social interactions. Language development continues into adulthood for both oral and written communication.

Talents like understanding grammar, making word associations, and deciphering metacognitive verbs all get better with age. Adults and adolescents both use language to identify with their peer group. Teenagers utilize socially coded, expressive, and connotative language (Rowe & Valerie, 1992).

Adolescent Language Assessment

The tests available in Indian languages are insufficient in the variety of purposes and age ranges they test. In comparison to the number of foreign tests, only a few Indian tests are currently in use. These tests are limited in both number and scope. Most of these tests are primarily aimed at assessing the language of preschool children, with little attention paid to the language assessment of adolescent children. In India, there are mainly two tests that focus on assessing language development in adolescents, i.e., Linguistic Profile Test – Kannada adaptation (11 – 15+ years) and the Manipal Manual of Adolescent Language Assessment, developed by Karuppali and Bhatt (2016). Linguistic Profile Test (LPT) was created with the goal of assessing and analyzing linguistic skills in the phonology, syntax, and semantics sections. The test was created in Kannada three decades ago (Karanth, 1990) and was known as the "Test of psycholinguistic abilities in Kannada".

The LPT is divided into three major sections: phonology, semantics, and syntax, with discourse coming at the end of the third. The test can cover a variety of response tasks such as pointing, repetition, indicating grammatical and semantic acceptability, naming, sentence completion, lexical category listing, and so on (Karanth, 1990). Phonemic discrimination and phonemic production are assessed in the phonology section. Synonyms, antonyms, naming, polar questions, lexical categories, paradigmatic and syntagmatic relations, identification of semantically ambiguous sentences, and similarity and contiguity are all examples of semantic discrimination.

The syntax section examines syntactic structures for grammaticality judgment tasks such as morphophonemic changes, PNG markers, plurals, tenses, affirmatives, comparatives, transitive, intransitive, causatives, conditionals, negatives and interrogatives, conjunctions, and participial constructions. In the discourse section, a discourse sample is elicited through picture description, story narration, and an interview. The Linguistic Profile Test was used to track the progress of language acquisition. However, one of the most significant disadvantages of the LPT is that it does not focus on pragmatics.

The Manipal Manual of Adolescent Language Assessment (MMALA), developed by Karuppali and Bhatt, is another Indian test that focuses on language deficits in adolescents (2016). This was created to assist speech-language pathologists in identifying language deficits in adolescents. The test material is standardized for literate adolescents who speak Indian English and serves as a useful tool for understanding the semantic and morphologic changes of an adolescent of the age group 10-16 years with language disorders.

The test items included in the test material are the contrastive relations task (auditory and visual), the multiple meanings task (auditory and visual), the associated relations task (auditory and visual), the convergent naming task (auditory and visual), the analogical reasoning task (auditory and visual), the morphological derivations task (auditory and visual) consisted of bound morphemes which changed with age, the double-function words task (auditory), the homophones task (visual) which consisted of word choices which were age-specific and increased in complexity with age, the compare/contrast task (auditory) consisted of word choices which were age-specific and increased in complexity with age, the Proverbs/Idioms Task (visual) and the Similes Task (auditory). Despite the fact that it is a time-consuming assessment procedure, it provides information on all aspects of language as well as insight into areas where the individual struggles.

Development and Assessment of Semantics in Adolescents

Adolescent semantic development is a gradual and subtle process. A person's level of semantic knowledge matters in persuasive conversation. Nippold (1993) asserts that there are Semantic features that could serve as indicators of academic success include: metaphorical language and lexical variety. Nippold et al. (2005) investigated semantic development in children, adolescents, and adults in the context of persuasive writing. An analysis of three types of literate words was used to assess semantics (adverbial conjugates, abstract nouns, and meta-verbs). According to the study, the production of adverbial conjugates, abstract nouns, and meta-verbs all increases with age. The use of abstract nouns increased the most, while the use of adverbial conjugates and meta-verbs remained low, even in adulthood. This suggests that the literate lexicon is a gradual development rather than an "all or nothing" process.

Nippold (2000) discovered through additional research that syntax development during adolescence is gradual and subtle, with changes visible when closely examined. Nippold (2000) proposed that examining syntactic development in a less linguistically demanding or challenging discourse (e.g., conversational) could lead to the incorrect conclusion that there is no syntactic growth in adolescence. Nippold (2000) then asserted that by examining a more linguistically demanding discourse, such as the persuasive discourse, syntactic growth becomes more apparent. As a result, the more demanding the discourse, the more obvious the syntactic growth. Understanding figurative expressions like "metaphors" (The bird was a flying rainbow; Genius is perseverance in action), "idioms" (talk through one's hat; a wolf in sheep's clothing), and "proverbs" (Every cloud has a silver lining; Humility often gains more than pride) is a crucial aspect of semantics that gradually develops during school-age years, adolescence, and adulthood.

The learning process continues throughout one's lifetime even though comprehension of these phrases begins in early childhood. This is seen when people are asked to interpret expressions with the little familiarity that contain abstract terminology and are intended to convey complicated ideas. Most children have a vocabulary of around 18000 words by the age of six, many of which are the names of concrete objects (bicycles, skates) and common actions (jump, catch). At this young age, children's lexicons will also include many adjectives (sharp, noisy) and adverbs (quickly, slowly) that are used to modify a burgeoning repertoire of nouns and verbs. The majority of these words would have been learned through informal spoken-language interactions with adults and other children, listening to conversations and stories, and having the opportunity to talk about events in children's daily lives. Written language offers a new resource for vocabulary development after children can read competently, usually by the time they are nine or ten years old, and it can be used to supplement these spoken language chances. (Sternberg, 1987).

During the preadolescent (ages 9-12) and adolescent (ages 13-19) years, lexicons will gradually expand so that by early adulthood, they will understand and use at least 60 000 different words, including a large number of abstract nouns (courage, freedom), later-developing metalinguistic (persuade, convince) and metacognitive (deduce, discover) verbs, and other terms used to express precise meanings such as During the preadolescent (ages 9-12) and adolescent (ages 13-19) years, lexicons will gradually expand so that by early adulthood, they will understand and use at least 60 000 different words, including a large number of abstract nouns (courage, freedom), later-developing metalinguistic (persuade, convince) and metacognitive (deduce, discover)verbs, and other terms used to express precise meanings such as mathematics (concentric, hyperbola), biology (monozygotic, phylogeny), and history (dictatorship, liberation) (Nippold, 1998). Most children can define concrete nouns in this manner by the age of 12 (e.g., An emu is a large bird that lives in Australia but does not fly),

but it is not until late adolescence or even early adulthood that individuals can define abstract nouns in this concise, efficient, and informative manner (e.g., Idleness is a state of inactivity that can include a lack of motivation or opportunity) (Nippold et.al., 1999).

Understanding of figurative expressions such as ‘metaphors' (The bird was a flying rainbow; genius is perseverance in action), 'idioms' (talk through one's hat; a wolf in sheep's clothing), and 'proverbs' is an important aspect of semantics that gradually develops during the school-age years, adolescence, and adulthood (Every cloud has a silver lining; Humility often gains more than pride). Although comprehension of these expressions begins in early childhood, the learning process continues throughout the lifespan, as evidenced by people being asked to interpret low-familiarity expressions containing abstract vocabulary and intended to convey complex thoughts.

Figurative expressions are taught through metalinguistic techniques, just as new vocabulary. Contextual abstraction is one of these strategies, where the learner makes an effort to deduce the meaning of an expression from its larger language context. A different tactic known as "meta lexical analysis" is used when a student internally analyses an expression to deduce the meaning of each word. Additionally, the amount of exposure a person has to particular phrases in meaningful communication settings significantly influences their ability to learn, emphasizing the importance of "world experience."

Development and assessment of Analogical Reasoning in Adolescents

Analogical reasoning refers to the ability to use similarities between relational structures of objects or situations to infer missing information (Gentner & Smith, 2012)**.** Analogical reasoning is a human skill that maps relational systems. It develops concurrently with relational knowledge, working memory, and executive functions like inhibition. It also maintains a mutual influence on the development of language. Analogical reasoning is a powerful tool for

acquiring knowledge through various mechanisms such as inference projection (from the source domain to the target domain), schema abstraction, difference detection, and re-representation (with an improved match by a slight modification of the representations of the relations) (Gentner & Smith, 2013).

Analogical thinking is the act of discovering a partial set of correspondences between the elements (objects, qualities, and relations) that make up the mental representations of two circumstances in order to transfer knowledge from one scenario to another. More naturalistic experimental paradigms than the often-used proportional format are needed to understand analogical thinking. Analogical reasoning begins in early development, while children have the relational knowledge to process a specific analogical task (Goswami & Brown, 1990).

Analogical reasoning is involved in language development (Gentner & Namy,2006), as it plays an early role in vocabulary acquisition: it is the comparison of several exemplars of a new word that allows the extraction of taxonomic or functional commonalities, as well as the application of the word to new exemplars (Gentner & Namy, 1999; Augier & Thibaut, 2013). When a young child is shown a bicycle labeled as a blicket and asked to find another blicket, he will select a perceptually similar object (such as glasses). If he sees two blickets (a bicycle and a tricycle), he will choose a functionally similar object (a skateboard) (Gentner & Namy, 1999). Analogical reasoning allows for the acquisition of grammar (Gentner & Namy, 2006): analogies lead to abstract constructions (which are units of language that vary in complexity and abstractness, Tomasello, 2009) and the use of novel items within a construction (Bybee, 2004).

These claims have been validated by artificial grammar-learning paradigms: seven-month-old infants can abstract a pattern they hear and apply it to new forms (Marcus, Vijayan, Bandi Rao, & Vishton, 1999). Goldwater, Tomlinson, Echols, and Love (2011) proposed that

structural priming (the repetition of the same structure across different utterances) is equivalent to making an analogy between utterances. To summarise, structural alignment, a core mechanism of analogical reasoning, is critical to grammar acquisition and word learning (Gentner & Namy, 2006).

Development and Assessment of Morphological Derivations in Adolescents

Morphemes are the smallest meaning units in both written and spoken language. For example, 'un' is a morpheme that indicates 'not' when added to a base word, as in 'unhappy'. Understanding complex English words like 'unhappy,' 'happier,' and 'happiness' can be aided by an understanding of morphemes. Morphological awareness is a metalinguistic skill that refers to the ability to consider and manipulate word morphemic structure (Carlisle, 1995).

Inflection and derivation are two aspects of morphology that are commonly studied in studies of English speakers. Inflections provide information about numbers (cat-cats) and tense (like-liked), but do not change the base word class (e.g., 'cat' and 'like'). Derivations can change the word class of the base, such as from verb to adjective or noun (execute: executive or execution), and they can also change the spelling as well as a change in meaning (happy: unhappy). Improvements in these aspects of morphology can be seen throughout the school years (Kirby et al., 2012) and up to the ninth grade (Nagy, Berninger, & Abbott, 2006), with a particular increase in derivational morphology beginning around the age of eight (Anglin, 1993; Berninger, Abbott, Nagy, & Carlisle, 2010). Morphological awareness is linked to reading comprehension ability throughout the school years and into adulthood (e.g., Foorman, Petscher, & Bishop, 2012).

Between the ages of 6-7, children can identify word endings, and root words, and use affixes to infer meanings of unfamiliar words. Inflectional morphology is typically mastered around the ages of 6-7, implying that many first and second-graders use a correct verb and noun

endings in oral language. In terms of derivational morphology, children may appear to struggle with this skill in early Kindergarten, but important developments are occurring as they learn to read (Nippold, 2016). Anglin (1993) found that students in grades 1-3 can recognize morphemes and use morphological knowledge to infer unknown word meanings. In grades 3 and 4, students refine their understanding of derivational morphology (Nippold, 2016).

Derivational morphology usually improves the most between grades 4 and 8. This is also the time when most children have switched from "learning to read" to "reading to learn". Print exposure is important in morphological development because children need to see words in print as well as hear them. Knowledge of phonology and phonological awareness is required but not sufficient for reading and spelling. Morphological knowledge is also required for more complex words because spelling is governed by morphological rules. From fourth to eighth grade, students learn to recognize morphologically complex words as well as study their parts to deduce what unfamiliar words might mean.

Morphological development continues to progress as students enter high school. Students in grades 10 through 12 experience significant growth in their ability to process morphologically complex words, which is due in part to the large amount of difficult content that the typical high school student encounters during schoolwork. Students are also becoming more aware of how morphological rules influence phonetic structure and syllable stress, which means that the way we pronounce a morpheme may change if an affix is added or removed.

Development and Assessment of Figurative Language

Figurarative language is the use of words or phrases to create a special meaning. It's non-literal, which means the use of language shouldn’t be taken as fact but creatively interpreted. Figurative language often has a different meaning or intention that goes beyond the ways the word or phrase is typically used**.** It is formed by a variety of expressions that might remarkably

differ from a semantic and syntactic point of view: metaphor, similes, idioms, proverbs, and for some authors sarcasm and irony as well. Figurative strings occur very frequently in spoken and written language as revealed by simple frequency counts that estimate that people use about six nonliteral expressions (metaphors, idioms, proverbs, and so forth) per minute of discourse (Glucksberg, 1989). The same pervasiveness holds also in the language directed to children: for instance, 6.7 percent of the sentences of the reading programs for primary schools in the United States contain an idiomatic expression (Nippold,1991).

Figurative language is widely acknowledged as an important and versatile literary device. This is due to the fact that it can be used in a variety of ways, including using jokes to engage a reader while explaining complex ideas. Learning to recognize and use figurative language is an important literacy skill for children in everyday language use. Understanding figurative language benefits children's communication skills. They can express ideas that would be difficult to explain otherwise by using devices such as similes and metaphors. A figurative language is also an important tool for assisting children in developing emotional intelligence because it is frequently used to better express emotions. Children will also improve their inference skills by analyzing figurative language to determine its meaning.

Lazar and colleagues (1989) discovered that 27% of classroom teachers' utterances included at least one type of figurative language in a study of their language use. Furthermore, the use of figurative language increased from 5% in kindergarten to 20% in grade 8. (Lazar et al. 1989). Students encounter 4.08 idioms per minute in classroom activities and curriculum texts after fourth grade (Nippold et al. 2001). The successful interpretation and application of figurative communication promote the development of academic, personal, and professional relationships (Thoma and Daun 2006). Idiom comprehension has been shown to have a positive relationship with academic achievement in typically developing adolescents (Nippold and Martin 1989). Many changes in cognitive development occur during adolescence, contributing

to an increased capacity to understand and use figurative language. At the same time, academic demands for inferential thinking, abstract concept understanding, and independent learning increase during this developmental period.

Adolescents with figurative language impairment struggle to make inferences in their spoken and written language, as well as to easily paraphrase or rephrase. They also have difficulty understanding others in social situations when the meaning is ambiguous (e.g., teasing, bantering) and expressing themselves clearly when discussing ideas or relationships (Im-Bolter et al. 2013). These issues persist into adulthood, putting them at a higher risk of emotional and behavioral difficulties (Im-Bolter & Cohen 2007), lower career standing, and lower earnings than typically developing peers (Beitchman et al. 1996).

Development and Assessment of Similes/Metaphors in adolescents

Metaphors

A metaphor is a type of figurative language (Gibbs & Colston, 2012). Metaphoric words or phrases are used to describe something by applying them to objects or actions that are not applicable in order to demonstrate that two things have similar qualities and to make descriptions more powerful (Oxford Advanced Learner's Dictionary, 2010; Oxford Dictionary of English, 2003). Metaphor is derived from the Greek “metaphora” and “metapherein”, which mean to transfer (Oxford Dictionary of English, 2003), implying that some sort of information transfer occurs. Metaphors are used in everyday communication and thought, and they are considered to be part of a larger system of human cognition and communication (Gibbs & Colston, 2012).

Children's metaphorical language abilities have grown in scientific interest in recent decades, as metaphors are used to help children learn new things (Williams, 1988). The development of metaphor comprehension appears to begin around the age of five or six, as

children typically understand perceptually grounded metaphors (Gentner, 1988; Siltanen, 1987) and demonstrate some ability to verbally reason about metaphorical mappings (Gibbs & Colston, 2012). Children begin to understand simple metaphors around the age of five or six, as they increasingly construct disjunctive categories based on perceptual grounds (Siltanen, 1986, 1987) and appear to process metaphors literally (Asch & Nerlove, 1960). Children are usually able to construct disjunctive and conjunctive categories based on multiple perceptual grounds by the age of eight (Siltanen, 1987), as well as to interpret metaphors based on immediate physical resemblance (Johnson & Pascual-Leone, 1989).

Children between the ages of 9 and 11 increasingly comprehend moderately difficult metaphors as they begin to construct relational categories based on perceptual and conceptual grounds (Siltanen, 1987). It can be hypothesized that around the age of 11 or 12, early adolescents reach a qualitatively new level in metaphor processing. Children's ability to understand metaphors with complex vocabulary grows with age, but metaphors that express human emotions require a greater level of world experience (Nippold, 1998).

Similes

One of the most obvious types of figurative language is the simile. It is a comparison made between at least two entities, derived from the Latin word similes (Fadaee, 2011). Similes are frequently used in everyday language. Bredin (1998) asserts that simile is a mental process, stating that it is a semantic figure that constructs links between distinct areas. A simile is regarded as one of the most lucid language figures in the literature. According to Glucksberg (2001), a simile is a direct comparison. In such a comparison, one thing is portrayed as being similar to another.

Identifying children's levels of comprehension of similes during the language acquisition process can provide information about their language acquisition, thinking skills, and success

in comprehending figurative language. It can be stated that children who can comprehend similes are capable of using language faculties and comprehending figures in thinking, because simile is first activated in the mind, then in the language (Lakoff & Johnson, 1980). Determining the children's simile comprehension levels can also provide insights into their natural language acquisition and, as a result, socialization levels.

Development and Assessment of Idioms in adolescents

Idioms are figurative expressions such as “beat around the bush” and “skate on thin ice”. Some have proposed that idioms are learned as single lexical units or "giant words," and that they are stored and retrieved similarly to other words in the mental lexicon (e.g., Qualls et al. 2003). According to research on child idiom acquisition (e.g., Gibbs 1987, 1991), children in elementary school (grades 1–3) interpret idioms literally. The majority of researchers agreed that people gradually improve their idiom explanation accuracy during late childhood and adolescence, and then continue to improve throughout adulthood.

According to Nippold (1991), idiom acquisition is an ongoing process with no clear developmental point when idioms are mastered. Studies were conducted to determine whether people understood idioms correctly or incorrectly based on their explanation or interpretation of idioms (e.g., Brasseur and Jimenez, 1989; Nippold & Martin, 1989; Nippold & Rudzinski, 1993; Prinz,1983; Spector, 1996). The findings revealed that idiom interpretation gradually improves throughout late childhood, adolescence, and adulthood. Other researchers investigated idiom understanding categories (e.g., Ackerman 1982; Cacciari & Levorato 1989; Levorato & Cacciari 1992; Gibbs 1987, 1991), that is, whether people understand or interpret idioms idiomatically, literally, or by using relevant information (i.e., associated concepts or examples). The findings of these studies were similar: younger children (kindergarten, grades 1 and 3) gave more literal explanations than their older peers (grades 4 and 5) and adult

controls. Idiomatic comprehension and interpretation are greatly influenced by one's exposure to idioms, which refers to one's familiarity with them (e.g., Levorato & Cacciari 1992; Nippold and Rudzinski 1993; Nippold and Taylor 1995; Nippold et al. 1996)

Nippold et al. (2001) investigated idiom comprehension and the role of idiom familiarity in preadolescent reading and listening comprehension. The findings revealed that idiom comprehension was closely related to students' idiom familiarity as well as their reading and listening comprehension skills. Furthermore, students who performed better on the idiom comprehension task performed better on the idiom familiarity, reading comprehension, and listening comprehension tasks than those who performed poorly on the idiom comprehension task.

Development and Assessment of proverbs in adolescents

Proverbs are figurative expressions that can provide insight into perplexing situations by giving advice (e.g., "Don't count your chickens before they're hatched"); warning a person of danger (e.g., "When a wolf shows his \teeth, he isn't laughing"); offering encouragement (e.g., slow and steady wins the race"); or commenting upon events (e.g., "When the cat's away, the mice will play"). Proverbs can be true or false when taken literally. However, they express opinions at a figurative level and thus are not propositions that can be denied or affirmed (Honeck, Voegtle, Dorfmueller, & Hoffman, 2018).

Proverbs are frequently used in both spoken and written communication (Gibbs & Beitel, 1995), and comprehension of these expressions contributes to cultural literacy (Hirsch, Kett, &Trefil, 1988; Mieder, 1994). Proverb comprehension is an important aspect of children's and adolescents' later language development and literacy attainment (Nippold, 1998). Proverb comprehension improves during adolescence, and this growth is most visible at two stages of development: when students transition from late childhood to early adolescence, and again

when they transition from late adolescence to adulthood. It was also demonstrated that the concreteness of the nouns in proverbs plays an important role in determining how easily such expressions are understood, confirming previous research (Nippold & Haq, 1996).

Because of the greater level of world experience required and the lower frequency of occurrence, proverbs are typically more difficult to understand than metaphors and idioms in the language, and the more verbal reasoning they require (Nippold, 2000). Proverb learning occurs as a result of the interaction of top-down pragmatic and bottom-up semantic processing strategies. The learner learns why the speaker used the proverb by paying attention to the linguistic context in which it occurs. The learner then begins to draw analogies from the proverb itself to the larger context by focusing on the individual words that comprise the expression. Adolescent language development is most visible when experimental tasks that require metalinguistic competence are presented, such as when a youth is asked to interpret figurative expressions such as proverbs (Nippold & Haq, 1996; Nippold, Marilyn, Martin & Erskine, 1988).

Language and academic achievement

Language is necessary for a child's academic abilities. Language development and literacy are unquestionably important aspects of any child's overall development. It promotes a child's ability to communicate, express, and comprehend emotions. It also promotes a child's cognitive ability and aids in the development and maintenance of relationships. Language development lays the groundwork for children's reading and writing abilities as they enter and progress through school.

Strong and fundamental language and communication skills will assist children in thinking about and evaluating complex ideas and scenarios that are not limited to what they can see in front of their eyes. Developing any ability to create and tell stories, begin playing

with different words, and learning to ask meaningful questions are the best indicators of children's very strong and robust language skills. Language and communication skills and abilities are crucial in children's lives. Throughout the day, children hear and listen to a variety of words and sentences, both at home and school. Every activity they do throughout the day provides them with an opportunity to learn new words and phrases. With the proper language skills, children will be able to understand, master, and apply a variety of simple and complex words and ideas.

Language is required for all aspects of their education in the classroom as they interact with peers and teachers, as well as throughout their lives as they mature into adults. As a result, developing language skills is critical for every child's future success as a social being and in pursuing an education. When a child recognizes the importance of learning a language and can see how it directly applies to their life, they learn more quickly. When they are motivated to learn a language and see meaningful connections to their lives, they begin to take risks to produce language, which allows them to learn it faster.

During the first three years of life, young children begin to learn about print and writing. Play, reading books, scribbling, back-and-forth communication, and interactions with adults all promote and support literacy skills. A solid foundation in oral language development before a child enters school will promote future success in reading and writing. Young children who have had a diverse range of language and literacy experiences are more likely to succeed in learning to read independently. Reading comprehension is dependent on language abilities that develop from birth. Basic vocabulary and grammar are necessary for comprehension because they allow the understanding of words and their interrelationships within and across individual sentences in a text (Kintsch & Kintsch, 2005).

A study conducted by Einarsdottir et al. (2015) looked at the relationship between language proficiency at age 5 and later academic achievement throughout the compulsory school in Iceland and revealed that oral comprehension abilities have a significant but weaker correlation with later academic achievement. It was determined that early language development is a good indicator of future academic success. Success in academic areas throughout the school years is greatly influenced by establishing a solid language foundation early on (Pace, Hirsh-Pasek, & Golinkoff, 2016) and maintaining a focus on language skills even during the decoding years to support later reading success (Dickinson et al., 2010; Harris, Golinkoff, & Hirsh-Pasek, 2011).

Johnson et al. (2010) conducted a longitudinal study in which two groups of kids were compared: a group of kids with speech and/or language impairment who was first diagnosed at age 5 (n = 112) and a group without a history of such issues (n = 132). At ages 5, 12, 19, and 25, numerous demographics, linguistic, cognitive, academic, behavioral, and psychosocial elements of the two participant groups were evaluated. The study showed that participants with a history of language barriers experienced ongoing issues with academic and educational achievement as well as difficulty in locating acceptable employment.

Mathematical word problems are notoriously difficult to solve for students of all grade levels. Students' performance deficiencies have been attributed to a lack of abstract logico-mathematical knowledge or insufficiently developed language comprehension skills (Kurt, 1990).

Esmeralda (2016) conducted a study to determine whether language influences students' performance on arithmetic word problems. The study included 30 third-grade students. Some participants identified Maltese as their first language, while others preferred English. During

the interview, they were asked to recall and solve two multi-leveled sets of word problems, one in Maltese and one in English, as well as complete a nonverbal computation sheet.

The results showed that students found word problems more difficult than nonverbal computations, owing to the language component. Furthermore, it appeared that when problems were presented in their first language, they understood and remembered them better, as well as solved them correctly. They were also able to complete the task faster because the word problem was already set in their preferred language.

Language knowledge increases self-confidence, which benefits the child in all situations. Recent studies have found a positive relationship between bilingualism and reasoning abilities in children. These reasoning abilities include nonverbal problem-solving skills, divergent thinking skills, and field independence (Cummins, 1976).

Meaux and Norris (2018) conducted research that demonstrates why speech-language pathologists (SLPs) are an essential part of the school curriculum for all students. According to the findings, the demands of a rigorous curriculum provide SLPs with an exceptional opportunity to apply their knowledge of linguistic principles to improve student performance and achievement. With a greater emphasis on student achievement, growth outcome measures, and value-added incentives, SLPs must become curriculum contributors for all students, and data to support this role must be gathered through targeted research initiatives.

The role of Speech-Language Pathologists in school settings can be discussed in light of these findings. A structured collaboration between the SLP, parents, and teacher is an excellent way to improve the linguistic ability of children with language impairment, which in turn improves academic achievement.

Language nowadays plays an important role in a child's development. Language plays different roles at different stages of life, such as acting as a representation of economic status

and determining an individual's qualification on which his or her future is built. It shapes a child's world, allows him or her to express himself or herself, and contributes to his or her emotional growth, in addition to academic and other aspects of life. The ability to use sophisticated linguistic expressions has been linked to academic competency and social acceptance

Although many linguistic skill assessments are conducted at the primary level, such assessments must be continued into middle and high school to determine remediation goals for older children. Language performance in adolescence is difficult to measure as the development in this stage is marked by a subtle and gradual improvement in skills. Therefore, these changes may not be obvious unless the group is widely separated and studied.

The necessity of analyzing language in the Indian adolescent population emerges at this point as there are no studies available on the analysis and comparison of language skills in poor academic achievers. In this context, the present study is designed to investigate the language skills of adolescents, in the age range of 10 to 16 years. Hence the present study provides an opportunity to evaluate the language skills of adolescents (10 to 16 years old) in relation to their academic performance, which was not previously considered a major focus.

In comparison to the several standardized tests of language designed to assess toddlers and primary graders, there exists only a handful for adolescents. A few of the tests used for adolescent language in the Western population are as follows: *The Clinical Evaluation of Language Fundamentals Screening Test—4, by Semel, Wiig, and Secord (2004*)*The Adolescent Language Screening Test, by Morgan and Guilford (1984)*

To date, the only two Indian tests tapping upon the language deficits encountered by adolescents are the *Linguistic Profile Test* – Kannada version (11 – 15+ years) and the *Manipal Manual of Adolescent Language Assessment,* developed by Karuppali &Bhatt (2016).

The Linguistic Profile Test was originally designed by Karanth (1980) in Kannada and was known as the Test of Psycholinguistic Abilities in Kannada. A parallel version of the test was developed in Hindi by Karanth, Pandit, and Gandhi (1986). Sharma (1995) later developed a Hindi version of the Linguistic Profile Test on individuals between 6 and 15 years old. Many unpublished versions of the test are available in other Indian languages – Malayalam (Asha, 1997; Rukmini, 1994), Telugu (Suhasini, 1997; Reddy, 2001), Nepali (Karna, 2003) and Konkani (Barreto, 2004). Linguistic Profile Test served as a test for monitoring the acquisition of language.

Another Indian test tapping upon the language deficits encountered by adolescents is the *Manipal Manual of Adolescent Language Assessment* (MMALA), developed by Karuppali &Bhatt (2016). It has been developed to aid professionals in the identification of language deficits exhibited by adolescents. The test material serves as a useful tool to understand the semantic and morphologic changes of an adolescent of age group 10-16 years with language disorders and is standardized for literate adolescents who speak the Indian-English language. The test items included in the contrastive relations task (auditory and visual), the multiple meanings task (auditory and visual), the associated relations task (auditory and visual), the convergent naming task (auditory and visual), the analogical reasoning task (auditory and visual), the morphological derivations task (auditory and visual) consisted of bound morphemes which changed with age, the double-function words task (auditory), the homophones task (visual) which consisted of word choices which were age-specific and increased in complexity with age, the compare/contrast task (auditory) consisted of word choices which were age-specific and increased in complexity with age, the Proverbs/Idioms Task (visual) and the Similes Task (auditory). MMALA is a norm-referenced and criterion-referenced test that can be used in clinical settings to gain insight into task-specific problems

encountered by adolescents with language disorders. Hence this test is been used for the present study.

METHOD

This chapter outlines the research design, participant selection process, data collection methods, and analytical procedures used to explore the linguistic characteristics and challenges faced by adolescents with a history of academic underachievement. It also discusses ethical considerations to ensure the confidentiality of the participants.

Aim of the Study

The study attempted to analyze and understand the language skills of school-going adolescents aged 10-16 years with poor academic achievement.

Objectives

1. The performance of the two groups of school-going adolescents, namely, those with above-average and those with below-average academic performance, on language tasks in auditory and visual modalities were compared.
2. To compare modality-specific performance (between auditory and visual modalities) across two groups of school-going adolescents, with above-average and below-average academic performance, on language tasks.
3. To compare performance on language tasks in auditory and visual modalities between male and female school-going adolescents.

Research Design

This study employed a standard group comparison design within a comparative cross-sectional framework. This design enables analyses of language abilities across different groups of school-going adolescents and facilitates comparisons based on academic performance, modality, and gender.

Participant selection and categorization procedure

In the initial stage of the study, a screening checklist and a grade-level assessment checklist were developed and validated to screen and categorize the participants. These

checklists are provided in Appendix D&E, respectively. The developed screening checklist and grade-level assessment checklist were randomly distributed and were collected back from teachers of grades 5 to grade 10, two months before data collection. Language and content comprehension among the teachers were ensured.

Students from the Ernakulam and Kasaragod districts, representing grades 5 through 10, served as the participants. Through this purposive sampling procedure, a total sample size of 240 school-aged adolescents (G), consisting of 108 males (GM) and 132 females (GF), ranging in age from 10--16 years, was chosen for the study. A pilot study was conducted by categorizing the participants into six groups based on their age, with each group consisting of 40 participants. The results of the pilot study revealed that there was no significant difference between the age groups across all the domains of the test material administered. Hence, for the final analysis, all the age groups were combined.

The participants were divided into 2 groups, Group A (GA) and Group B (GB), based on the grade-level assessment checklist results, the students' yearly progress reports, and the teachers' feedback on their overall academic performance.

- **Group A (GA):** 120 students with above-average academic performance.
- **Group B (GB):** 120 students with below-average academic performance.
- **Group A**

Adolescent students of the specified age range who have been attending English-medium schooling since lower primary classes, who scored above 60 on the grade-level assessment checklist, and who were able to meet the cutoff score of 5 in each section of the developed screening checklist with above-average academic performance were chosen for the study.

Exclusion criteria

- Individuals with language learning disabilities
- Individuals with a history of psychological illness and any neurological illness
- Individuals who are physically challenged (sensory loss, motor deficits)
- Individuals with cognitive disabilities

Group B

Adolescent students of the specified age range who have been attending English-medium schooling since lower primary classes, who scored below 35 on the grade-level assessment checklist, and who were able to meet the cutoff score of 5 in each section of the developed screening checklist with below-average academic performance were chosen as the experimental group for the study.

Exclusion criteria

- Individuals with language learning disabilities
- Individuals with a history of psychological illness and any neurological illness
- Individuals who are physically challenged (sensory loss, motor deficits)
- Individuals with cognitive disabilities

Materials used for the study

- The Screening Checklist and the Grade-Level Assessment Checklist
- The Manipal Manual of Adolescent Language Analysis (MMALA)

Development and Validation of the Screening Checklist and Grade-Level Assessment Checklist

A screening checklist consisting of two parts (Part A and Part B) was developed and validated to screen and select study participants. The questions were developed after reviewing

already available screening materials, the Language Experience and Proficiency Questionnaire (Marian et al., 2007), and the Screening Checklist for Auditory Processing Disorders (Yathiraj & Mascarenhas, 2003). Part A consisted of demographic data regardingthe name, age/gender, grade, school name, syllabus followed, and medium of instruction. Part B addressed general health, auditory processing issues, English language competency, and linguistic and cognitive abilities. The cutoff score selected for each subsection was 5, and students who failed to meet the cutoff score were eliminated from the study. Ten speech-language pathologists validated the developed checklist, and their suggestions were incorporated before administering it. (Appendix D)

The Grade-Level Assessment Checklist was developed and validated to evaluate students' overall academic performance and to categorize participants into above-average and below-average categories. Part A of the checklist consisted of demographic data, and Part B addressed the general and academic performance of the participants. The total score of the checklist was 100. Students with a total score above 60 were categorized as above average, those between 35 and 60 were classified as average, and those with a total score below 35 were classified as below average. The checklist was validated by 15 schoolteachers and ten speech-language pathologists, with their suggestions incorporated before administration. The grade-level assessment checklist is given in the Appendix E

The Manipal Manual of Adolescent Language Analysis (MMALA)

The Manipal Manual of Adolescent Language Assessment, by Karuppali and Bhatt (2016), is a norm-referenced and criterion-referenced test developed as an assessment tool to identify subtle semantic and morphological language changes in adolescents aged 10–16 years who speak Indian English. The test assesses both auditory and visual modalities. The manual includes tasks that reflect an adolescent's visual and auditory processing abilities. Tasks are

provided separately for each modality, allowing for a bimodal method of presentation. Stimuli are presented verbally and orthographically, helping clinicians understand the nature of modality-specific deficits in the assessed adolescent. The testitems within each task are selected and ordered based on the individual's age. With copyright permission from the authors, the test is provided in Appendix F

A brief description of the subtests

- Auditory Modality Domain: This domain contains tasks to assess language aspects, with stimuli presented verbally by the examiner.
- Visual Modality Domain**:** This domain contains tasks to assess language aspects, with stimuli presented orthographically to the examinee.

Each task includes the following components:

- Instruction**:** Details what the examiner must instruct the examinee.
- Scoring**:** Guides the examiner on how to score the responses obtained in each test domain.
- Practice Item**:** Allows the examiner to demonstrate the task to the examinee; however, no score is given for this item.
- Test Item**:** The items on which the examinee is assessed and scored.

The test material consists of four domains.Semantics,Analogical reasoning skill,Morphological derivation skills and Figurative language skills

Data collection

Based on the results obtained from the screening checklist and the grade-level assessment checklist, a total sample size of 350 school-aged adolescents, ranging in age from 10-16 years, was chosen for the study. However, only 240 participants (G), consisting of 108 males (GM) and 132 females (GF), completed the task.

The language test material, the Manipal Manual of Adolescent LanguageAssessment, developed by Karuppali and Bhatt (2016), was administered to all the selected participants by the researcher. The test was conducted in a well-lit and distraction-free classroom and was performed in two sittings to avoid signs of inattention. Each session lasted for approximately 25-30 minutes. The domains assessed included semantics, analogical reasoning, morphological derivation, and figurative language skills. Following the administration of the test material, the results were documented for statistical analysis. Test statistics were used to compare the various groups for each objective. The mean and standard deviation values were calculated for each group across the entire domain of the standardized test content.

Statistical analysis

The comparison of the individual groups based on each objective was conducted via test statistics. SPSS 26, the latest version of the Statistical Package for the Social Sciences, was used. The mean and standard deviation values were calculated for all participantsacross the entire domain of the test material. Owing to the total score difference in the figurative language domain, normalization was performed to adjust the values to a normal scale without distorting the differences in the value ranges. The Mann-Whitney Z test was used to determine the significant differences between the groups.

Ethical considerations

- A consent letter was obtained from the respective educational institution to which the participants belonged before data collection.
- A consent letter was also obtained from the parents of the participants, requesting permission to involve their children in the study and assuring them that this would not interfere with their regular academic activities.
- The study was approved by the Institutional Ethics Committee (IEC).

RESULTS AND DISCUSSION

The present study aimed to analyze and compare the language skills of adolescents with poor academic performance. The research examined three key areas: the performance of school-going adolescents on language tasks across academic performance levels, modality-specific differences, and gender-based comparisons.

In the initial stage of the study, a screening checklist and a grade-level assessment checklist were developed and validated to screen and categorize the participants. These checklists are provided in Annexures 1 and 2, respectively. The screening and grade-level assessment checklists were randomly distributed to grade 5 through grade 10 teachers, two months before the data collection. Ensuring language and content comprehension among the teachers was crucial. Students from the Ernakulam and Kasaragod districts,representing grades 5 through 10, were chosen as participants. Through this purposive sampling procedure, a total sample size of 240 school-aged adolescents (G), consisting of 108 males (GM) and 132 females (GF), aged 10-16 years, was selected for the study.

A pilot study was conducted by categorizing the participants into six groups; of one-year age differences, with each group comprising 40 participants. The results of the pilot study revealed no significant differences between the age groups across all the domains of the test material administered. Consequently, for the final analysis, all the age groups were combined. The participants were divided into groups, Group GA and Group GB, based on the grade-level assessment checklist results, the students' yearly progress reports, and the teachers' feedback on their overall academic performance.

The GA group included 120 students with above-average academic performance and Group GB included 120 students with below-average academic performance. The main tool used for the data collection was the Manipal Manual of AdolescentLanguage Analysis (MMALA), which is used to assess language performance in both auditory and visual

modalities. The domains studied were semantics, analogical reasoning, morphological derivations, and figurative language skills. Appropriate statistical methods were used to compare the various groups based on each objective. As there was a total score difference in the figurative language domain, normalization was performed to change the values of the numerical column to a normal scale without distorting the difference in theranges of values. The Mann-Whitney Z test was used to determine significant differences between the groups.

The results of the following objectives are discussed in this chapter.

- To compare the performance between the two groups of school-going adolescents, namely, those with above-average and those with below-average academic performance, on language tasks in auditory and visual modalities.
- To compare the modality-specific performance (between auditory and visual modalities) across two groups of school-going adolescents, with above-average and below-average academic performance, on language tasks.
- To compare the performance on language tasks in auditory and visual modalities between male and female school-going adolescents.

1. Comparison of performance between the two groups of school-going adolescents, namely, those with above-average (GA) and those with below-average academic performance (GB), on language tasks in auditory and visual modalities.

The participants (N=240) were equally divided into two groups; GA (N120) and GB (N120). As per the test protocol, both auditory and visual modalities were examined. Each domain's mean and standard deviation were determined based on the data obtained. The Mann-Whitney Z test independent sample t-test (T) was employed to determine significant differences between the groups.

The results are presented below.

1. a) Comparison of performance between two groups of school-going adolescents, GA& GB, on language tasks in the auditory modality.

Each domain's mean and standard deviation were determined based on the data obtained. The Mann-Whitney (Z) test was performed to explain the significant differences between the groups. The tasks for the auditory modality were administered to the participants verbally by asking the questions included in each domain. The auditory modality tasks assessed in this study included contrastive relation, multiple meanings, associated relation, convergent naming, double function words, analogical reasoning, compare/contrast, morphological derivation, and figurative language (similes). The results consistently showed that Group GA (above-average academic performance) outperformed Group GB (below-average academic performance) across all tasks.

Figure 1. a

Mean values of groups GA & GB across the domains of Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language in the auditory modality.

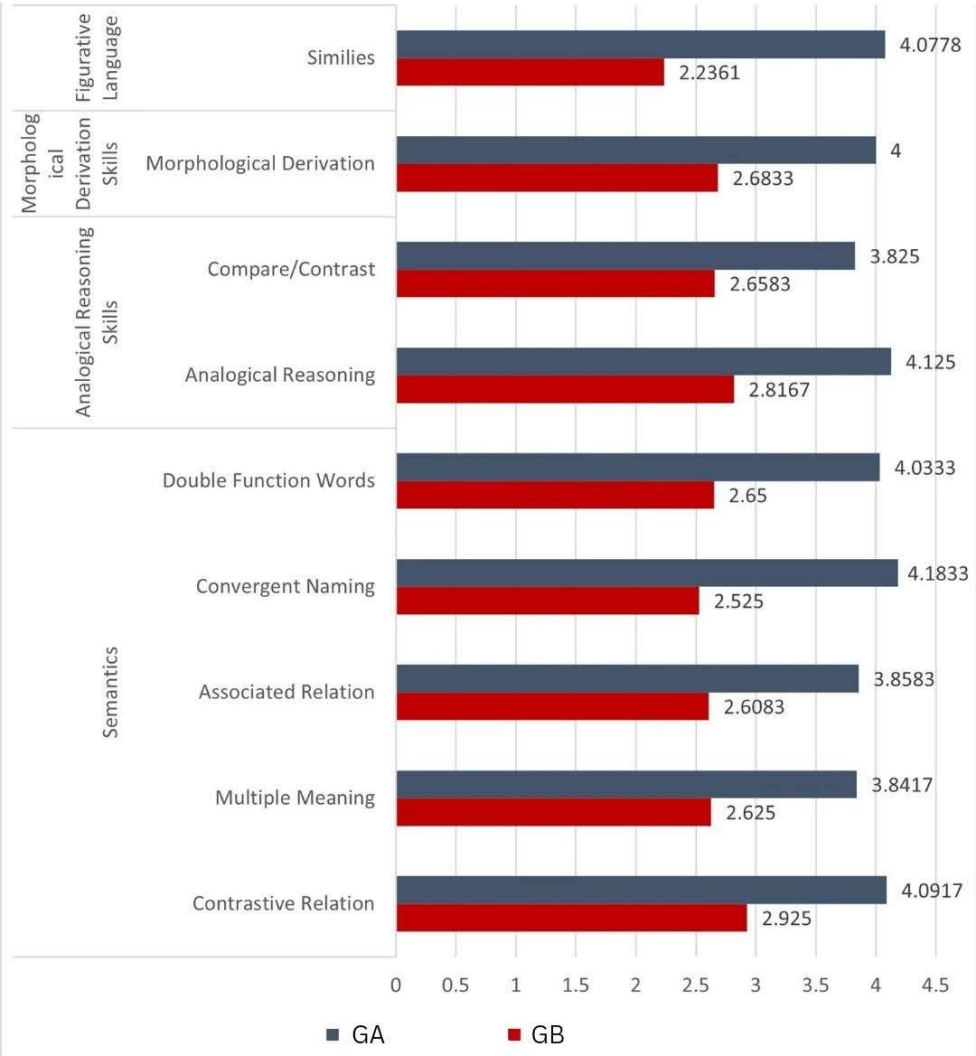

Table 1. a

Mean, Standard Deviation, and Mann–Whitney(Z) test results of groups GA & GB across the domains of Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language in the auditory modality

Domain	Task	Academic Performance	N	Mean	Median	Std. Deviation	Mean Rank	Mann-Whitney Z	p- value
Semantics	Contrastive Relation	GB	120	2.925	3	0.50481	75.21	-10.823	0
		GA	120	4.0917	4	0.74468	165.7		
	Multiple Meaning	GB	120	2.625	3	0.55097	73.39	-11.214	0
		GA	120	3.8417	4	0.68594	167.6		
	Associated Relation	GB	120	2.6083	3	0.53915	73.6	-11.161	0
		GA	120	3.8583	4	0.72525	167.4		
	Convergent Naming	GB	120	2.525	3	0.53393	66.33	-12.55	0
		GA	120	4.1833	4	0.70987	174.6		
	Double function Words	GB	120	2.65	3	0.63046	72.63	- 11.193	0
		GA	120	4.0333	4	0.74398	168.3		
AnalogicalReasoning Skills	Analogical Reasoning	GB	120	2.8167	3	0.63489	73.72	-10.972	0
		GA	120	4.125	4	0.7167	167.2		
	Compare/ Contrast	GB	120	2.6583	3	0.52654	77.68	-10.247	0
		GA	120	3.825	4	0.81645	163.3		
Morphological Derivation Skills	Morphological Derivation	GB	120	2.6833	3	0.62151	73.85	- 10.971	0
		GA	120	4	4	0.74473	167.1		
FigurativeLanguage	Similes	GB	120	2.2361	2.16	0.49393	61.85	- 13.118	0
		GA	120	4.0778	4	0.53798	179.1		

Table 1. a, compares auditory modality scores between GA & GB using the Mann-Whitney test. Key auditory tasks such as contrastive relation, multiple meanings, associated relation, convergent naming, and double-function words and similes were assessed. Each task shows both groups' mean, standard deviation, and mean rank, along with the Mann-Whitney Z statistic and p-value.

1.b) Comparison of performance between two groups of school-going adolescents, GA& GB, on language tasks in the visual modality

Each domain's mean and standard deviation were determined based on the data obtained. The Mann-Whitney (Z) was performed to explain the significant differences between categories. The tasks for the visual modality were given to the participants by presenting the questions from each domain on a printed sheet and asking them to answerthe questions by reading the questions from the printed sheet. The visual modality tasks assessed in this study included contrastive relation, multiple meanings, associated relation, convergent naming, double-function words, analogical reasoning, morphological derivation, and figurative language (similes).

The results consistently showed that Group GA (above-average academic performance) outperformed Group GB (below-averageacademic performance) across all tasks.

Figure 1.b

Mean values of groups GA& GB across the domains of Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language in the visual modality.

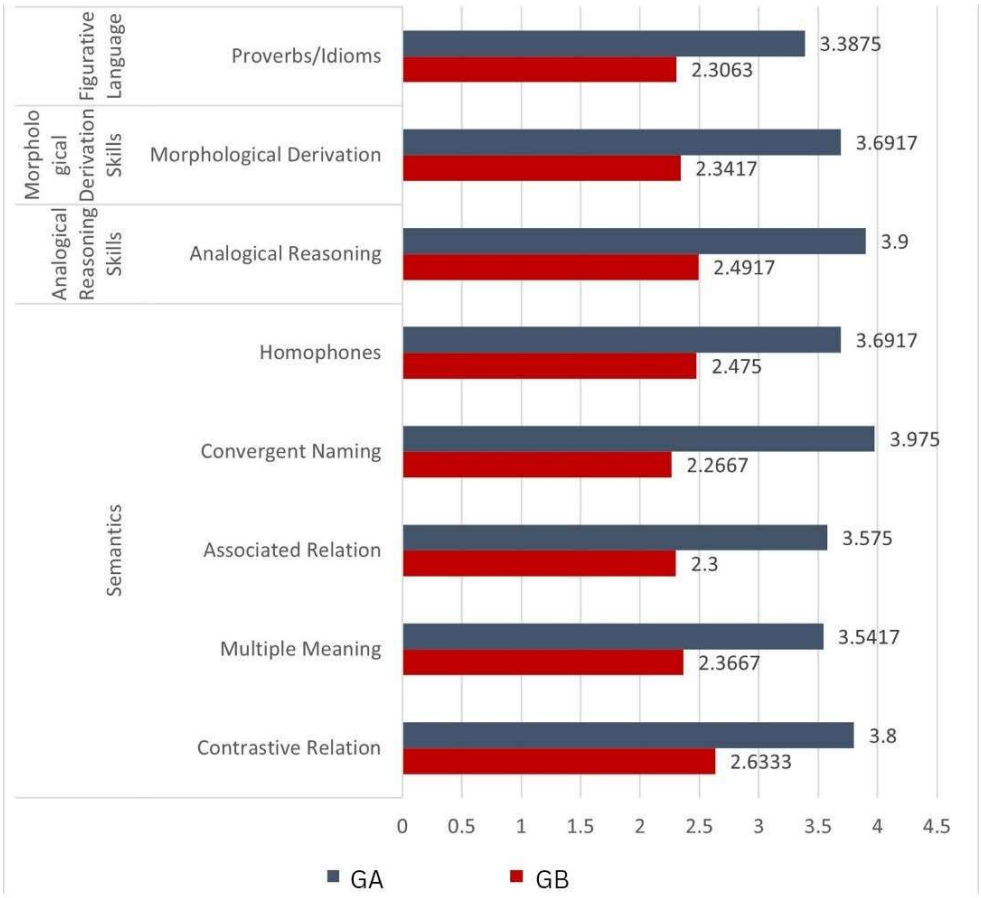

Table 1. b

Mean, Standard Deviation, and Mann–Whitney(Z)/Independent sample t test (T) results of groups GA& GB across the domains of Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language in the visual modality.

Domain	Task	Academic Performance	N	Mean	Median	Std. Deviation	Mean Rank	Mann Whitney Z	p-value
Semantics	Contrastive Relation	GB	120	2.6333	3	0.69733	79.88	-9.602	0
		GA	120	3.8	4	0.82605	161.1		
	Multiple Meaning	GB	120	2.3667	2	0.73259	77.94	-10.06	0
		GA	120	3.5417	4	0.70884	163.0		
	Associated Relation	GB	120	2.3	2	0.62979	72.11	-11.423	0
		GA	120	3.575	4	0.61716	168.8		
	Convergent Naming	GB	120	2.2667	2	0.6703	67.59	-12.206	0
		GA	120	3.975	4	0.74993	173.4		
	Homophones	GB	120	2.475	2.5	0.75551	78.72	-9.795	0
		GA	120	3.6917	4	0.7864	162.2		
Analogical Reasoning Skills	Analogical Reasoning	GB	120	2.4917	3	0.69809	71.32	-11.477	0
		GA	120	3.9	4	0.66611	169.6		
Morphological Derivation Skills	Morphological Derivation	GB	120	2.3417	2	0.67979	71.25	-11.592	0
		GA	120	3.6917	4	0.61897	169.7		
Figurative Language	Proverbs/ Idioms	GB	120	2.3063	2.3333	0.33961	63.12	-12.818	0
		GA	120	3.3875	3.3333	0.49715	177.8		

From the above Figures 1.a&1. b we can see that in every domain of the test material, the GA performed better than the GB in both modalities. Tables 1a&1b indicate that there is a significant difference between the performance of the two groups across all the domains of the test materials in auditory and visual modalities. The results indicate that there is a positive relationship between language proficiency and academic achievement, implying that language proficiency improves academic achievement. Better the understanding of language and metalinguistic abilities greater there is a chance of better academic performance. In general, language skills have a significant impact on a student's academic success.

A study conducted by Einars et al. (2016) looked at the relationship between language proficiency at age 5 and later academic achievement throughout the compulsory school in Iceland and revealed that oral comprehension abilities have a significant with later academic achievement. It was determined that early language development is a good indicator of future academic success. Success in academic areas throughout the school years is greatly influenced by establishing a solid language foundation early on (Pace, Hirsh-Pasek, & Golinkoff, 2016)

and maintaining a focus on language skills even during the decoding years to support later reading success (Dickinson et al., 2010; Harris, Golinkoff, & Hirsh-Pasek, 2011).

Pace et al. (2018) conducted research using the NICHD Study of Early Child Care and Youth Development dataset (n = 1364), to examine a comprehensive set of readiness indicators in kindergarten and identify which domains were stronger predictors of academic and social trajectories through grade 3 and from grades 3 to 5. The findings demonstrated that once children enter school, a strong emphasis on language skills must be maintained particularly for children who start school behind their peers. Poor language proficiency is likely to make it difficult for students to catch up in the other readiness domains, which are more and more dependent on language proficiency. A study conducted by Chow et al. (2021) compared the language performance of children with and without mathematical difficulties. They compared child vocabulary, morphology, and syntax between first- and second-grade children (N = 247) classified as with or without mathematical difficulties, controlling for a child's working memory. Results revealed that children with mathematical difficulty (n = 119) significantly underperformed compared with their peers (n = 155) on all language measures. The largest difference between children with and without mathematical difficulty was in syntax. Children with mathematical difficulty exhibited poorer language skills than their peers, which showed the importance of linking syntax with mathematics learning. Children learn mathematics through verbal instruction in classrooms where teachers discuss new math concepts. Children with higher levels of listening comprehension and receptive syntax may be better able to understand verbal instructions from teachers, whereas children with lower language skills may find it difficult. They summarised that oral language is a fundamental cognitive process that contributes to the encoding and storage of mathematical procedures and concepts, and it is broadly associated with concurrent and predictive mathematics performance.

In light of these findings, the role of Speech-Language Pathologists in school settings can be discussed. The SLP's role is to assess the child's language ability in greater detail, to provide the appropriate intervention, and to coach the teachers and family on how to improve the individual child's language ability. A structured collaboration between the SLP, parents, and teacher is an ideal way to improve the linguistic ability of children with language impairment, which in turn enhances their academic achievement.

2) Comparison of modality-specific performance (between auditory and visual modalities) across two groups of school-going adolescents, with above-average andbelow-average academic performance, on language tasks.

To compare the modality-specific performance, the data were analyzed separately for two groups, GA and GB, across auditory and visual tasks in the domains of Semantics, analogical Reasoning, and morphological Derivation. Separate tasks were given in auditory and visual modalities across these domains. The Auditory modality domain contains tasksto assess language aspects, with stimuli presented verbally by the examiner. The visual Modality domain contains tasks to assess the language aspect, with stimuli presented verbally by the examiner. The visual modality domain contains tasks to assess language aspects,with stimuli presented orthographically to the examinee. The results are discussed below. Each domain's mean and standard deviation were calculated based on the data collected. The Mann - Whitney Z test was used to explain the significant differences between modalities. These findings offer a comprehensive understanding of the performance differences between auditory and visual modalities, elucidating the strengths and weaknesses within each domain for both groups. The results are given below.

Figure 2. a

Mean values of GA across the domains of semantics, analogical reasoning, andmorphological derivation in auditory and visual modalities

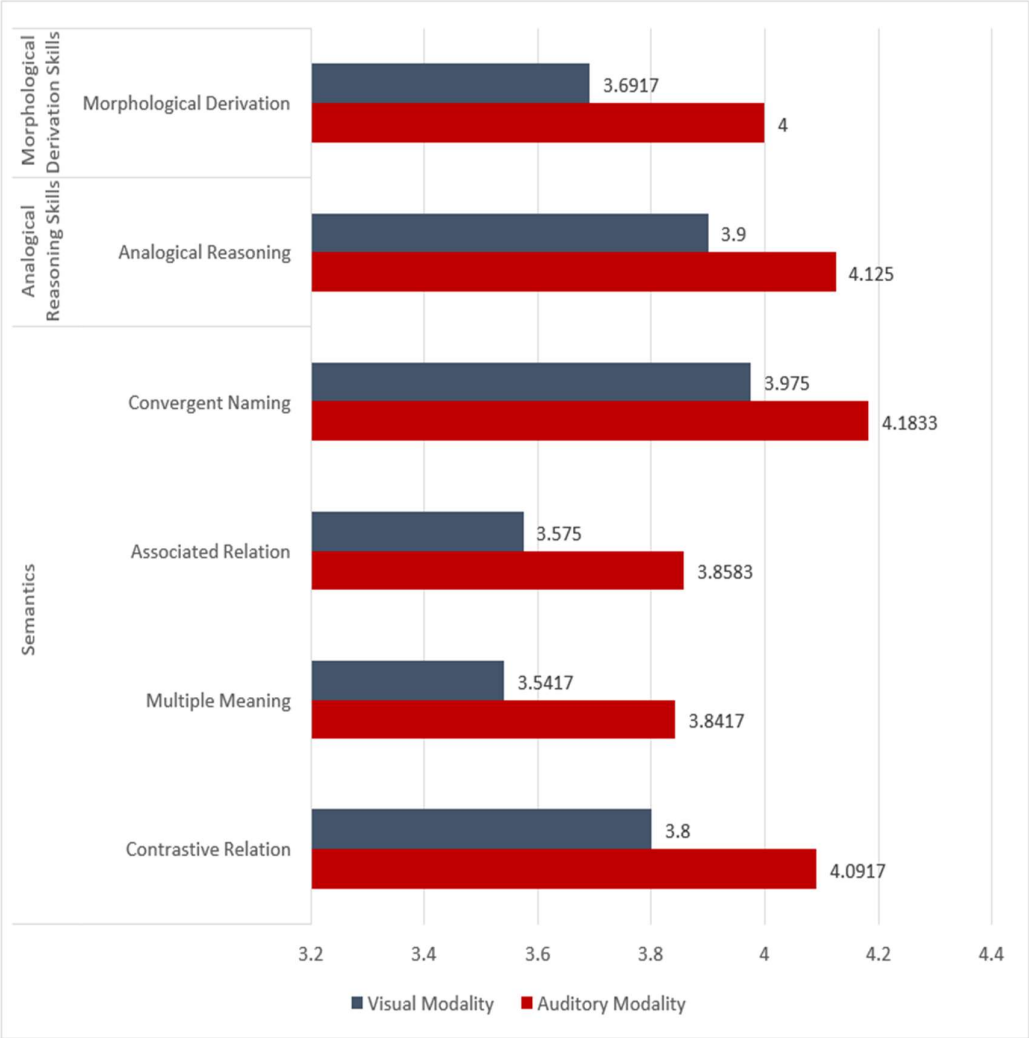

Table 2. a

Mean, standard deviation, and Mann-Whitney (Z) Independent sample t (T) test results of the GA across the domains of semantics, analogical reasoning, and morphological derivation in auditory and visual modalities

Academic Performance	Domain	Task	Modality	N	Mean	Median	Std. Deviation	Mean Rank	Mann Whitney Z	p-value
GA	Semantics	Contrastive Relation	Auditory Modality	120	4.0917	4	0.74468	132.29	-2.814	0.005
			Visual Modality	120	3.8	4	0.82605	108.71		
		Multiple Meaning	Auditory Modality	120	3.8417	4	0.68594	133.15	-3.099	0.002
			Visual Modality	120	3.5417	4	0.70884	107.85		
		Associated Relation	Auditory Modality	120	3.8583	4	0.72525	132.67	-2.975	0.003
			Visual Modality	120	3.575	4	0.61716	108.33		
		Convergent Naming	Auditory Modality	120	4.1833	4	0.70987	129.39	-2.141	0.032
			Visual Modality	120	3.975	4	0.74993	111.61		
	Analogical Reasoning Skills	Analogical Reasoning	Auditory Modality	120	4.125	4	0.7167	130.56	-2.466	0.014
			Visual Modality	120	3.9	4	0.66611	110.44		
	Morphological Derivation Skills	Morphological Derivation	Auditory Modality	120	4	4	0.74473	133.69	-3.217	0.001
			Visual Modality	120	3.6917	4	0.61897	107.31		

Figure 2. b

Mean values of GB across the domains of Semantics, Analogical Reasoning, and Morphological Derivation in auditory and visual modality

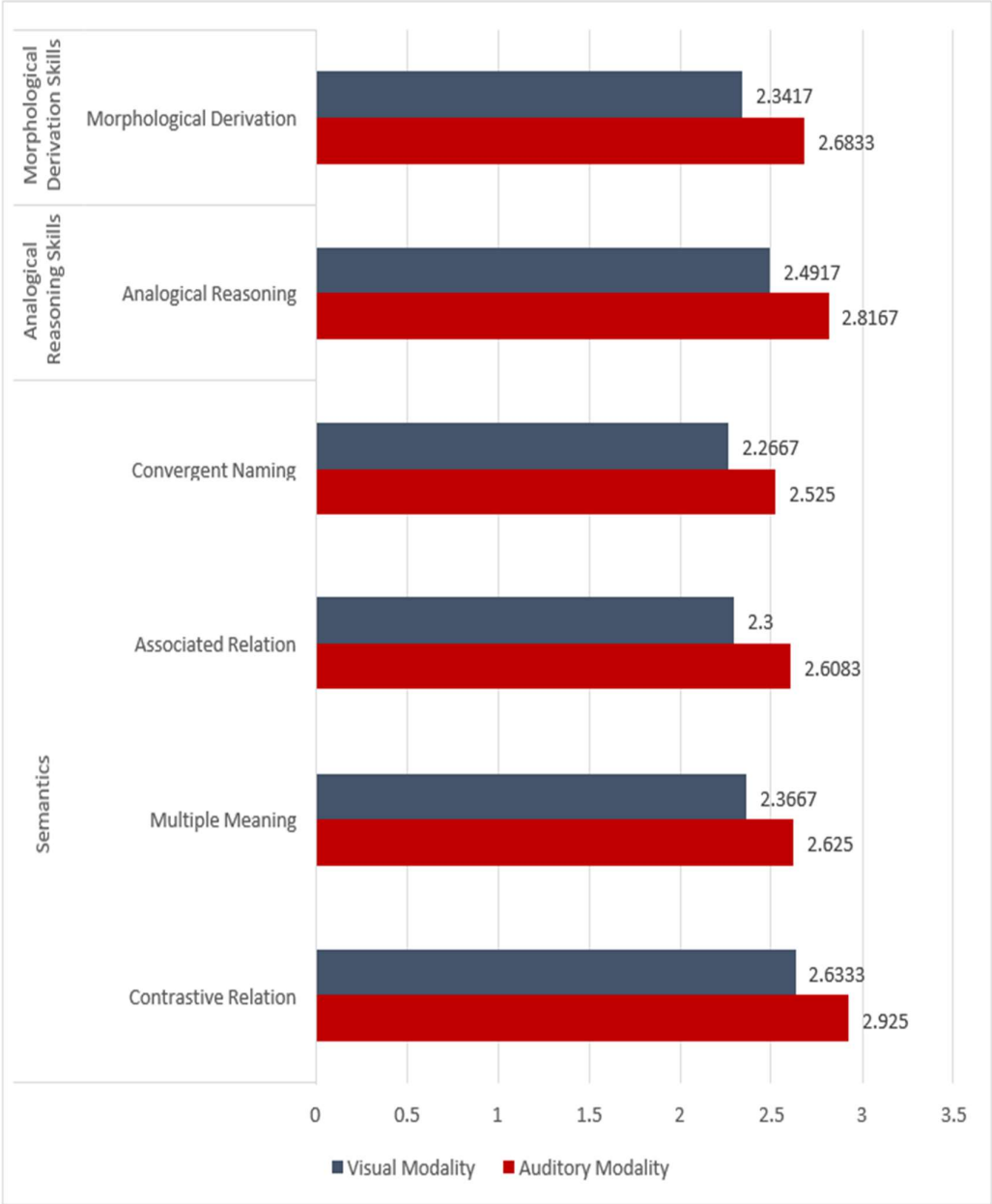

Table 2. b

Mean, standard deviation, and Mann-Whitney(Z) Independent sample t (T) test results of GB across the domains of semantics, analogical reasoning, and morphological derivation in auditory and visual modalities.

Academic Performance	Domain	Task	Modality	N	Mean	Median	Std. Deviation	Mean Rank	Mann Whitney Z	p-value
GB	Semantics	Contrastive Relation	Auditory Modality	120	2.925	3	0.50481	133.69	-3.49	0.00
			Visual Modality	120	2.6333	3	0.69733	107.31		
		Multiple Meaning	Auditory Modality	120	2.625	3	0.55097	131.34	-2.716	0.007
			Visual Modality	120	2.3667	2	0.73259	109.66		
		Associated Relation	Auditory Modality	120	2.6083	3	0.53915	135.76	-3.829	0.00
			Visual Modality	120	2.3	2	0.62979	105.24		
		Convergent Naming	Auditory Modality	120	2.525	3	0.53393	132.92	-3.107	0.002
			Visual Modality	120	2.2667	2	0.6703	108.08		
	Analogical Reasoning Skills	Analogical Reasoning	Auditory Modality	120	2.8167	3	0.63489	134.85	-3.558	0.00
			Visual Modality	120	2.4917	3	0.69809	106.15		
	Morphological Derivation Skills	Morphological Derivation	Auditory Modality	120	2.6833	3	0.62151	134.86	-3.567	0.00
			Visual Modality	120	2.3417	2	0.67979	106.14		

From the above Figures 2. a and 2. b we can see a greater Mean score value obtained for Auditory modality across all domains for both groups GA&GB. Table 2.a&2.b shows the result of the test statistics and it reveals that there are modality-based differences in language abilities as there is a highly significant difference between auditory and visual modality for both groups. This could be attributed to developmental patterns.

In adults, auditory and visual learning and memory share many similarities (Nahum, Nelken, & Ahissar, 2010; Visscher et al., 2007). In contrast, there is evidence of auditory dominance in children. In unimodal tasks, from infancy until at least adolescence, children show a preference for auditory over visual information, whereas adults show a preference for visual information (Budoff & Quinlan, 1964; Napolitano & Sloutsky, 2004; Robinson & Sloutsky, 2004, 2013; Sloutsky & Napolitano, 2003). Patterns of learning across modalities may change with development. Children's ability to learn temporal adjacencies in the visual modality improves from 5 to 15 years old but learning in the auditory modality stays constant in this same age range (Raviv & Arnon, 2018). These results suggest that younger children may demonstrate better learning for auditory than visual categories. In contrast to this study, M. C Wolf et al., 2016 claimed that the mode in which information is presented did not affect comprehension.

3. Comparison of performance on language tasks in auditory and visual modalities between male and female school-going adolescents (GM&GF)

The participants were grouped into GM (males) and GF (females). The GM consisted of 108 participants, and the GF consisted of 132 participants. The results of the comparison between the two groups, GM and GF, on the language tasks in the auditory andvisual modalities are given below.

3. a) The comparison of performance between the GM&GF on language tasks in the auditory modality

Each domain's mean and standard deviation were determined based on the data obtained. The Mann-Whitney (Z) test was performed to explain the significant differences between the groups. The tasks for the auditory modality were administered to the participants verbally by asking the questions included in each domain. The auditory modality tasks assessed

in this study included contrastive relation, multiple meanings, associated relation, convergent naming, double function words, analogical reasoning, compare/contrast, morphological derivation, and figurative language (similes). The results consistently revealed that there were no statistically significant differences in performance between male and female participants across all tasks related to auditory modalities.

Figure 3. a

Mean values of GM&GF across the domains of Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language in the auditory modality.

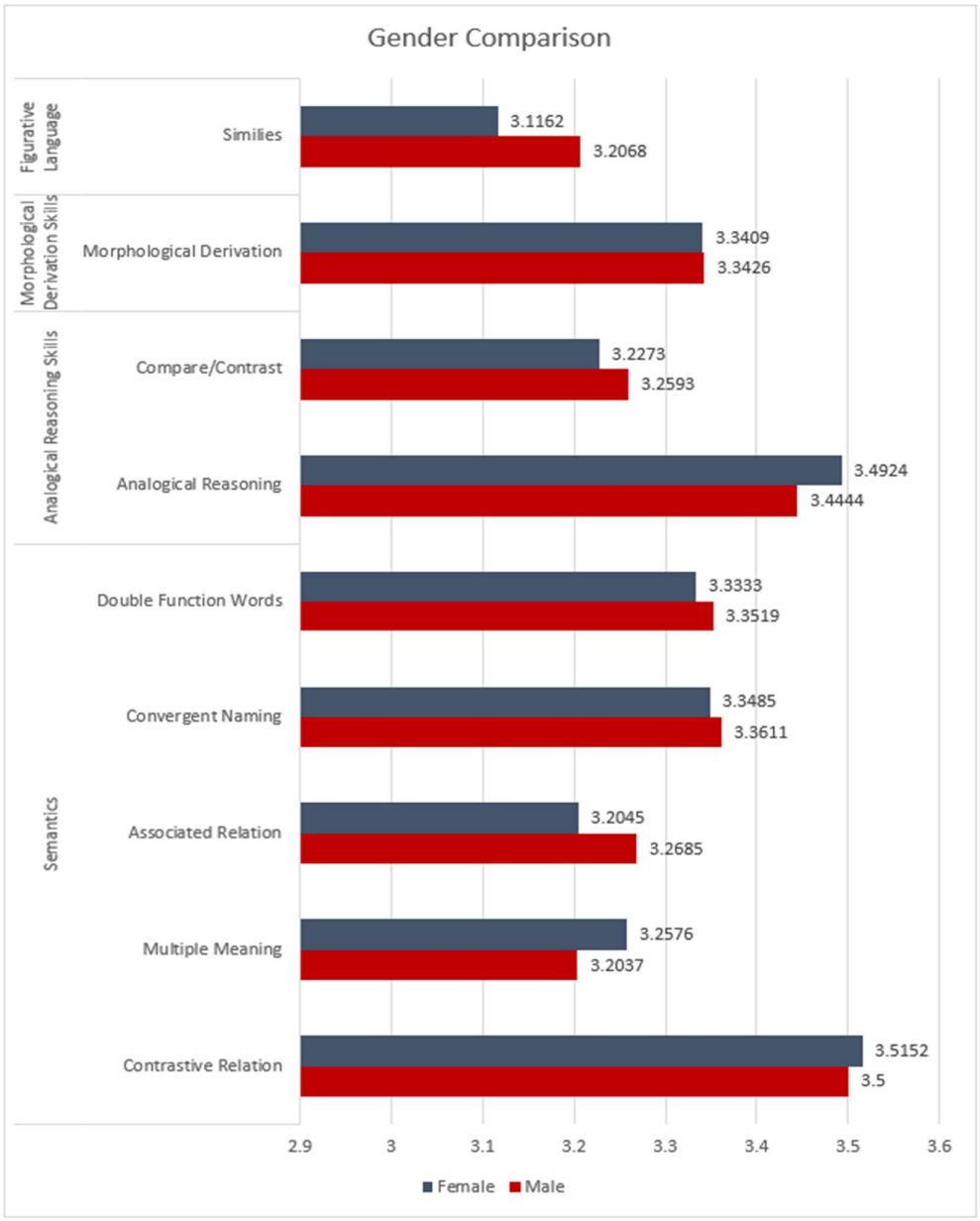

Table 3. a

Mean, standard deviation, and Mann-Whitney(Z) test results of GM& GF across the domains of semantics, analogical reasoning, morphological derivation, and figurative language in the auditory modality.

Domain	Task	Gender	N	Mean	Median	Std. Deviation	Mean Rank	Mann Whitney Z	p-value
Semantics	Contrastive Relation	Male	108	3.5	3	0.89129	120.09	-0.088	0.93
		Female	132	3.203	3	0.84011	120.83		
	Multiple Meaning	Male	108	3.268	3	0.90281	118.15	-0.506	0.613
		Female	132	3.361	3	0.94184	122.42		
	Associated Relation	Male	108	3.351	3	0.95031	123.16	-0.572	0.567
		Female	132	3.444	3	0.87897	118.33		
	Convergent Naming	Male	108	3.259	3	0.90037	121.78	-0.269	0.788
		Female	132	3.342	3	0.90855	119.45		
	Double Function Words	Male	108	3.206	3.5	1.09821	121.01	-0.109	0.913
		Female	132	3.515	3	0.84243	120.08		
Analogical Reasoning Skills	Analogical Reasoning	Male	108	3.257	3	0.89631	118.92	-0.335	0.738
		Female	132	3.204	3	0.88876	121.79		
	Compare/ Contrast	Male	108	3.348	3	1.11878	121.36	-0.186	0.852
		Female	132	3.333	3	1.00127	119.8		
Morphological Derivation Skills	Morphological Derivation	Male	108	3.492	3	0.99231	120.59	-0.019	0.985
		Female	132	3.227	3	0.90453	120.43		
Figurative Language	Similies	Male	108	3.340	3	0.98717	122.79	-0.464	0.643
		Female	132	3.116	3.166	1.02429	118.63		

Table 3. a shows the mean, standard deviation, and Mann-Whitney (Z) test resultsof GM& GF across the Semantics, Analogical Reasoning, Morphological Derivation, and Figurative Language domains in the auditory modality. Each task is characterized by the mean, median, standard deviation, and mean rank for both genders, along with the Mann- Whitney Z statistic and corresponding p-values.

Figure 3. b

Mean values of GM & GF across the domains of Semantics, Analogical reasoning, morphological derivation, and figurative language in visual modality.

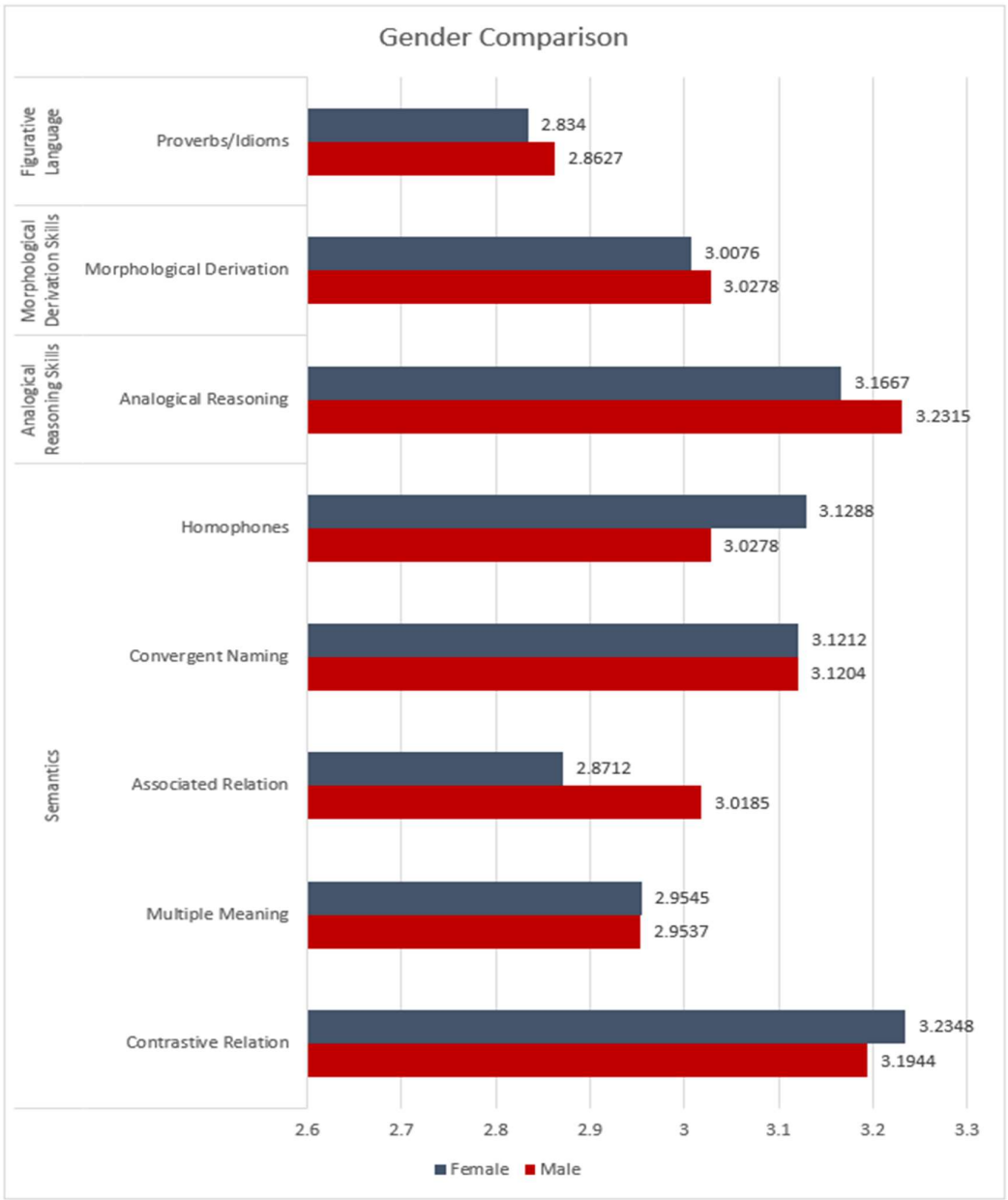

Table 3.b

Mean, standard deviation, and Mann-Whitney(Z) test results of GM& GF across the domains of semantics, analogical reasoning, morphological derivation, and figurativelanguage in the visual modality.

Domain	Task	Gender	N	Mean	Median	Std. Deviation	Mean Rank	Mann Whitney Z	p-value
Semantics	Contrastive Relation	Male	108	3.1944	3	1.01814	119.31	-0.255	0.798
		Female	132	3.2348	3	0.91518	121.48		
	Multiple Meaning	Male	108	2.9537	3	0.92103	119.78	-0.153	0.878
		Female	132	2.9545	3	0.9399	121.09		
	Associated Relation	Male	108	3.0185	3	0.91694	127.25	-1.44	0.15
		Female	132	2.8712	3	0.86849	114.98		
	Convergent Naming	Male	108	3.1204	3	1.08272	120.64	-0.03	0.976
		Female	132	3.1212	3	1.13937	120.38		
	Homophones	Male	108	3.0278	3	0.93187	117.5	-0.636	0.525
		Female	132	3.1288	3	1.02194	122.95		
Analogical Reasoning Skills	Analogical Reasoning	Male	108	3.2315	3	0.82718	122.61	-0.445	0.657
		Female	132	3.1667	3	1.09242	118.78		
Morphological Derivation Skills	Morphological Derivation	Male	108	3.0278	3	0.91159	120.47	-0.007	0.994
		Female	132	3.0076	3	0.96104	120.53		
Figurative Language	Proverbs/ Idioms	Male	108	2.8627	2.875	0.68778	122.18	-0.339	0.735
		Female	132	2.834	2.7917	0.69138	119.13		

From the Table 3.a&3.b shows that there are no gender differences in linguistic skills in adolescents, as there is no significant difference in performance between male and female participants. For some domains, males have performed better than females while in others females have performed better than males. The test result of the study follows the study done by Nippold et al. (2017). They conducted a study to create a language sampling task appropriate for adolescents and to contribute normative data from speakers with typical language development. Thirty adolescents (mean age = 14 years, 1 month) participated. The results revealed that the Fables task was effective in prompting adolescents to use complex

language and in encouraging them to express their opinions about moral messages. Although boys and girls did not differ in their performance on the task, some fables were more effective than others at eliciting spoken language and complex syntax.

Nippold et al. (2015) conducted a study to examine whether a critical-thinking task involving fables elicited more syntactic complexity than a conversational task in adolescents. Another goal was to see how well adolescents understood fable critical thinking questions. Forty adolescents with typical language development (N = 20 boys and 20 girls; mean age = 14 years) answered critical-thinking questions about the deeper meanings of fables. They also took part in a typical conversational task. When the critical-thinking task was compared to the conversational task, the measures of syntactic complexity were significantly higher regardless of gender.

Sommer et al. (2004) discovered that, while several studies, particularly those with smaller samples, revealed gender differences in brain functioning, there was no significant effect of gender on language lateralization in either children or adults.

Overall, the results indicate that there were no statistically significant differences between male and female performance across the visual modality tasks assessed. *Figures 3. a and 3. b* show that for the majority of the language domains in both modalities, the GM and GF groups present similar mean values. *Tables 3.a and 3.b* demonstrate that there are no significant gender differences in linguistic skills among adolescents, as there is no significant difference in performance between male and female participants. In some domains, males performed better than females, whereas in others, females outperformed males. Overall, the results indicate that there were no statistically significant differences between male and female performance across both the auditory andvisual modalities.

Overall, the findings of the study underscore the importance of language competency in academic success and point to the need for targeted interventions aimed at improving

language skills in adolescents struggling academically. These findings contribute to the limited literature on adolescent language skills in the Indian context and provide a foundation for future research and educational strategies.

Summary and Conclusion

Adolescent language development, although subtle, is crucial as it underpins all aspects of learning and interaction, both within the classroom and beyond. This studyhighlights a significant gap in research focused on the language skills of the Indian adolescent population, especially concerning poor academic achievers. This research aimedto understand the language skills of school-going adolescents aged 10-16 years with poor academic performance via the Manipal Manual of Adolescent Language Assessment (MMALA). The study's primary objectives included comparing language performance concerning scholastic achievement, gender, and modality.

The study employed a comparative cross-sectional design and involved developing and validating screening and grade-level assessment checklists. This enabled the selection and categorization of the participants. A total of 240 participants, aged 10--16 years, were selected throughpurposive sampling. The MMALA was administered to evaluate semantics, analogical reasoning, morphological derivation, and figurative language skills across auditory and visual modalities. Across all the domains of the test material, the group with above-average scholastic performance obtained higher mean scores than the group with below-average scholastic performance. Statistical analyses via the Mann-Whitney Z test revealed significant differences, in language scores across all the domains of the test material,between above-average and below-average students, emphasizing the impact of language skills on academic success. The results affirm a positive relationship between language proficiency and academic achievement, suggesting that enhanced language skills can significantly improve academic performance. Generally, students performed better in auditory modalities than visual modalities across all test domains. No significant gender-based differences were observed in language ability.

This study underscores the crucial role of language skills in the academic success of adolescent students. The findings highlight the need for targeted interventions to enhance

auditory and visual modality tasks in educational contexts. In the Indian setting, a significant gap exists due to the limited research on this demographic. One contributing factor to the lack of attention to adolescent language development is the limited focus of speech-language pathologists (SLPs) on this age group. This oversight may stem from a lack of understanding of the importance of adolescent language development and a shortage of assessment tools and intervention strategies specifically designed for adolescents. Given the critical nature of this developmental period, it is essential to focus on enhancing support in this area. Meeting these needs will enhance academic performance and promote the overall well-being of adolescents.

Structured collaboration among SLPs, parents, and teachers is crucial forimproving adolescents' linguistic abilities and academic achievements. It is crucial for schools to provide targeted language support for students struggling with language proficiency through intervention strategies and additional resources. Educators can improve students' academic outcomes and foster lifelong learning by prioritizing language development and implementing evidence-based strategies.

Addressing these identified challenges necessitates a collective effort toward developing effective and inclusive educational environments that meet the diverse needs of learners. Implementing targeted interventions and addressing the unique challenges faced by adolescent students is imperative. Future research must bridge these gaps, fostering a supportive and conducive atmosphere for academic success. Such efforts ultimately lead to enriched educational experiences and outcomes, benefiting all students.

Implications of the study:

- The study's results could influence educational policies, emphasizing the integrationof language development programs into school curricula to support academic achievement.
- This study can serve as a reference for developing intervention strategies tailored to

different language proficiency levels among adolescents, thereby improving educational outcomes.

- The present study's findings highlight the importance of school-based SLPs in improving students' overall academic performance.

Limitations of the study:

- The testing procedure was time-consuming, as the testing stimulus was lengthy.
- The second language was used as the medium for the assessment.

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